

Appl. No. 10/657,131
Amendment dated: August 22, 2005
Reply to OA of: May 20, 20005

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1(currently amended). A rocket motor insulation composition comprising:

(a) 50-95 parts by weight of a solid EPDM rubber, wherein said EPDM rubber represents ethylene propylene diene monomer rubber;

(b) 5-50 parts by weight of a liquid EPDM rubber whereby the weight parts of said liquid EPDM rubber and said solid EPDM rubber amount to 100 weight parts;

(c) 5-50 phr of polyaramide fiber, wherein phr represents parts by weight per 100 parts by weight of said solid EPDM rubber and said liquid EPDM rubber; and

(d) 5-50 phr of ammonium sulfate powder, wherein particles of said ammonium sulfate powder are encapsulated by only one layer of material, said one layer of material being a macromolecular rubber material to inhibit hydrophilic property of the particles; wherein said macromolecular rubber material is polyurethane.

2(original). The insulation composition as defined in claim 1 further comprising 5-100 phr of an inorganic filler, wherein said inorganic filler is silicon dioxide, aluminum hydroxide, or magnesium hydroxide.

3(original). The insulation composition as defined in claim 2 further comprising 4-8 phr of polyterpene resin as a tackifier.

4(original). The insulation composition as defined in claim 1 further comprising 0.1-5 phr of sulfur and 0.01-3 phr of a vulcanization accelerator, wherein said vulcanization accelerator is 4,4'-dithiodimorpholine, or N-tert-butyl-2-benzothiazole sulfenamide.

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5(original). The insulation composition as defined in claim 1 comprising 55-80 parts by weight of said solid EPDM rubber and 20-45 parts by weight of said liquid EPDM rubber.

6(original). The insulation composition as defined in claim 1 comprising 10-30 phr of said polyaramide fiber.

7(original). The insulation composition as defined in claim 1 comprising 1-30 phr of said ammonium sulfate powder.

8(canceled).

9(canceled).

10(previously presented). The insulation composition as defined in claim 2 further comprising 0.1-5 phr of sulfur and 0.01-3 phr of a vulcanization accelerator, wherein said vulcanization accelerator is 4,4'-dithiodimorpholine, or N-tert-butyl-2-benzothiazole sulfenamide.

11(previously presented). The insulation composition as defined in claim 3 further comprising 0.1-5 phr of sulfur and 0.01-3 phr of a vulcanization accelerator, wherein said vulcanization accelerator is 4,4'-dithiodimorpholine, or N-tert-butyl-2-benzothiazole sulfenamide.

12(previously presented). The insulation composition as defined in claim 2 comprising 55-80 parts by weight of said solid EPDM rubber and 20-45 parts by weight of said liquid EPDM rubber.

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13(previously presented). The insulation composition as defined in claim 3 comprising 55-80 parts by weight of said solid EPDM rubber and 20-45 parts by weight of said liquid EPDM rubber.

14(previously presented). The insulation composition as defined in claim 4 comprising 55-80 parts by weight of said solid EPDM rubber and 20-45 parts by weight of said liquid EPDM rubber.

15(previously presented). The insulation composition as defined in claim 2 comprising 10-30 phr of said polyaramide fiber.

16(previously presented). The insulation composition as defined in claim 3 comprising 10-30 phr of said polyaramide fiber.

17(previously presented). The insulation composition as defined in claim 4 comprising 10-30 phr of said polyaramide fiber.

18(previously presented). The insulation composition as defined in claim 5 comprising 10-30 phr of said polyaramide fiber.

19(previously presented). The insulation composition as defined in claim 2 comprising 1-30 phr of said ammonium sulfate powder.

21(previously presented). The insulation composition as defined in claim 3 comprising 1-30 phr of said ammonium sulfate powder.

22(new). A rocket motor insulation composition comprising:

(a) 50-95 parts by weight of a solid EPDM rubber, wherein said EPDM rubber represents ethylene propylene diene monomer rubber;

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(b) 5-50 parts by weight of a liquid EPDM rubber whereby the weight parts of said liquid EPDM rubber and said solid EPDM rubber amount to 100 weight parts;

(c) 5-50 phr of polyaramide fiber, wherein phr represents parts by weight per 100 parts by weight of said solid EPDM rubber and said liquid EPDM rubber; and

(d) 5-50 phr of ammonium sulfate powder, wherein particles of said ammonium sulfate powder are encapsulated by a macromolecular rubber material to inhibit hydrophilic property of the particles;

wherein the particles of said ammonium sulfate powder have a diameter ranging from 50 micron to 80 micron and;

wherein said macromolecular rubber material is polyurethane.